PCV59

COMPLIANCE INFLUENCE, PERSISTENCE AND THE BLOOD PRESSURE CONTROL GRADE ASSOCIATED WITH THE INCIDENCE OF CARDIOVASCULAR EVENTS AND THE SANITARY COSTS IN CONSUMPTION OF FIXED-DOSES IN THE ARTERIAL HYPERTENSION TREATMENT

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OBJECTIVES: To determine the incidence of cardiovascular events (CVE) and the sanitary costs in function of the compliance, persistence and blood pressure control; comparing patients consuming fixed-doses (FD) in front of free-doses (FD) in the treatment of HTA. **METHODS:** Observational-multicentric design. It was included patients >30 years appertaining to six team of primary care and two hospitals, that started pharmacological treatment for hypertension during 2006. It was established two study groups: FD (IECA/diuretics; ARA II/diuretics) and FD (IECA + DIU; ARA II + DIU, separately). Main measures: socio-demographics, co-morbidity, parameters, Charlson-index, compliance, persistence and control therapeutical objects (criteria: ESH-ESC). It was determined the accumulated incidence tax of CVE and a total-cost model (differentiating: sanitary/direct; non-sanitary/indirect). The patients' pursuit was realized during two years. Statistic analysis: logistic regression, proportional risk model of Cox and the ANCOVA, $P < 0.05$. **RESULTS:** It was recruited 1605 patients, 1.112 (69.3%) in FD and 493 (30.7%) in FD, $P < 0.001$; age average: 69.4 (12.2) years; women: 55.5%. Patients in FD were associated with the isquemic cardiopathy OR = 1.4 (CI of 95%: 1.1–2.0) and organic insufficiencies OR = 1.5 (IC of 95%: 1.2–2.1), $P < 0.031$. Patients in FD showed a better therapeutic compliance (77.6 vs. 71.9; $P < 0.001$) and treatment persistence at 24 months (62.1% [CI of 95%: 56.3–67.9%] vs. 49.7% [CI of 95%: 38.5–60.9%]; $P < 0.001$. The optimum control of the arterial pressure in FD was higher (48.9% [CI of 95%: 43.0–54.8%] vs. 46.7% [CI of 95%: 35.6–57.8%]; $P < 0.001$). The accumulated incidence tax of vasculocerebral accident in FD was 4.6% vs. 2.4%; p = 0.041. The total cost in FD was lower (€1650.7 vs. €1674.8; $P < 0.001$), in specialized care (€316.1 vs. €382.9; $P < 0.001$) and loses of labour productivity (€44.5 vs. €88.4; $P < 0.001$). **CONCLUSIONS:** Treatment of compliance and persistence for hypertension in FD improve the therapeutical control, causing a reduction of CVE and total sanitary costs.

PCV60

COST OF ANALYSIS OF THE ADVERSE EFFECTS OF THE ANTIARRYTHMIC DRUGS IN THE CLINCAL PRACTICE IN SPAIN

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OBJECTIVES: Antiarrhythmic drugs (AADs) are considered the first-line treatment of atrial fibrillation (AF). However, they present a high adverse effects (AEs) rate. The aim of the present study is to know the health resources and the costs associated with the management of AEs of main AADs. **METHODS:** The incidence of AE's of main AADs (amiodarone, sotalol, flecainide and propafenone) has been obtained from the Summary of product characteristics or correspondent clinical trials. The use of health resources associated with the management of the AEs has been evaluated by a panel of cardiology experts. Finally, all these clinical data regarding AE's incidence derived, has been combined with economic data from the Spanish literature and e- salud data,an Spanish database about health care costs. The study has been carried using National Health System perspective. **RESULTS:** The most expensive AEs have been pulmonary fibrosis: €2,177.49, cardiac events (mainly tachycardia or bradycardia): €1,422.08, and endocrine disorders (as hyperthyroidism: €244.06€ and hypothyroidsm: €239.06 €). When costs are analyzed in relation with the drug to which are associated, results are as follow: sotalol has been associated with the highest costs: €269.42, followed by flecainide: 132.25 €, and amiodarone: 127,82, whereas propafenone has been associated to the lowest cost: €48.09. However, although amiodarone is not the AAD associated with the highest cost, considering current Spanish AADs market, it is the one that has more economic repercussion. **CONCLUSIONS:** Current AADs may cause AEs and their management is related to health resources consumption. Pulmonary and cardiac events have been associated to the major cost. Considering current clinical practice in Spain, amiodarone is the treatment that supposes a major budget impact for the National Health Service.

PCV61

ECONOMICS ESTIMATION OF SIDE EFFECTS CORRECTION ANTIHYPERTENSIVE MEDICAL PRODUCTS OF INHIBITORS-ACE IN RUSSIAN HEALTH

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OBJECTIVES: To assess the cost of the basic course of pharmacotherapy of arterial hypertension (AH) of inhibitors-ACE, direct costs associated with the correction of side effects (SE), developing on the background of their application with further pharmacoeconomics evaluation of inhibitors-ACE. **METHODS:** Cost analysis, modeling. a consideration of the basic price of therapy trade names (TN) inhibitors-ACE INN: enalapril, lisinopril and the calculation of direct costs associated with correction of SE in patients diagnosed with stage II AH. Medical patients' route, the cost structure were modeled by questioning physicians, cardiologists of Institute of Gerontology, Clinical Hospital ¹ 55, Moscow. The study takes into account the cost: symptomatic therapy, specialist consultations, emergency care, hospital bed-days, laboratory and instrumental manipulations. Data registered in RF TN obtained from the site www.regmed.ru, information about prices—www.medlux.ru, www.cardioweb.ru. We took into account recommendations of standards of care for patients with AH, developed by Health Ministry of Russia. The cost of the basic course of pharmacotherapy and PE are estimated at 30-day time period for 1 patient. Average daily dose the drugs accounted for enalapril—5 mg/day, lisinopril—10 mg/day. **RESULTS:** The development of side effects (cough, arterial hypotension, allergies, headache, etc.) was the cause of drug withdrawal enalapril in 5.3% of patients, lisinopril at 3.8% of patients. The study calculated the cost of courses were the main pharmacotherapy TN lisinopril and enalapril, ranging from 30 to 245 Rubles, corrective therapy—from 284 to 583 Rubles. In the economic evaluation of SE was the least expensive scheme with drug enalapril, which is more advantageous from an economic position. **CONCLUSIONS:** The economic analysis of side effects developing on the background of the basic course of pharmacotherapy, is relevant assessment to improve the quality and credibility of pharmacoeconomics studies of drugs.

PCV62

UPTAKE AND COSTS OF IMAGING MODALITIES IN PACEMAKER-IMPLANTED AND NON-IMPLANTED PATIENTS

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OBJECTIVES: Magnetic resonance imaging (MRI) is considered the gold standard for imaging of the brain, spinal cord, musculoskeletal system, and complex cardiac malformations. However, pacemaker implant is a contraindication to MRI, and thus a barrier to access in pacemaker-implanted patients for this essential diagnostic technology. An analysis of Medicare fee-for-service data was conducted to estimate the difference in MRI uptake rates of pacemaker-implanted and non-implanted Medicare benficiaries. **METHODS:** The data comprised the fee-for-service portion of the 2008 Medicare patient population. Two issues were examined: the prevalence of the diseases for which MRI is the preferred imaging modality, and the uptake rates of all imaging modalities for MRI-indicated beneficiaries with pacemaker implants compared with those having no implants. For each of diseases for which MRI is the preferred modality we also identified any trade-offs between lower MRI rates and higher rates for other imaging modalities in pacemaker-implanted and non-implanted patients, and potential cost implications substituting MRI with other imaging modalities. **RESULTS:** The Medicare data indicated MRI uptake was nil in the pacemaker-implanted population where 13% of patients without any implant received MRI in 2008 suggesting that clinical practice is in line with the contraindication for MRI in pacemaker patients. Consequently, uptake of other imaging approaches including CT, ultrasound, nuclear, x-ray was greater in the MRI-indicated cohort of pacemaker patients (54%, 65%, 25%, 82%, respectively) compared to the similar non-implanted cohort (38%, 48%, 18%, 73%, respectively). It was estimated that access to MRI (i.e. patients implanted with MRI-compatible pacemakers) would generate up to 21% reduced diagnostic costs compared with no access to MRI (i.e. patients implanted with older generation pacemakers). **CONCLUSIONS:** Increased access to the diagnostic superiority of MRI may provide a more efficient allocation of diagnostic resources for pacemaker patients; this increased access can be provided with the availability in the market of new pacemakers engineered for MRI compatibility.

PCV63

COST OF ABLATION PROCEDURES FOR ATRIAL FIBRILLATION: RESULTS FROM THE AIAC SURVEY

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OBJECTIVES: As part of a broader HTA project on ablation procedures for atrial fibrillation (A-AF), objective of this study was to quantify consumption of resources and calculate cost of A-AF in comparison with current reimbursement in Italy. **METHODS:** A questionnaire was sent to the Italian electrophysiology (EP) centres identified by AIAC (Italian Society of Cardiac Pacing and Arrhythmology) to collect, 2008 data on: number of procedures; use of pre-post ablation diagnostics, consumables, electro-anatomic mapping, anaesthesia/analgesia, EP laboratory occupancy time, staff employed; EP laboratory equipment; duration of hospitalization. Bottom-up costing of resources was performed based on average costs from a sub-sample of 4 hospitals, national tariffs or published data. Average procedure cost was calculated based on mathematical (m-mat) and geometrical (m-geo) means. Final endpoint was the comparison between DRG-518 regional reimbursement values and full hospital costs for ablation treatment. **RESULTS:** A total of 52/87 (60%) AIAC centres replied to the questionnaire, reporting 33,745 EP procedures, of which 4,561 (13.52%) were A-AF (min = 3; max = 1091; average = 88; SD = 159, median = 49; IQR = 22–81). Production cost for A-AF amounted to €9455 (m-mat) and €8868 (m-geo): consumables (ablation and diagnostic catheters, transeptal needles, transeptal sheaths, and other devices) accounted for 61% of total cost; hospital stay 15%; intra-procedural costs (room occupancy, staff, anaesthesia and equipment) 20%; pre-procedural tests 4%. Difference of DRG-518 tariff vs. hospital incurred costs: m-mat €–4079 (–43%) or m-geo €–3492 (–35%). Cost of production appears more under-remunerated in Lazio (–54%), Lombardia (–46%), Veneto, Umbria (–45%). The imbalance was